HAYDEN MICROCOMPUTER GAMEWARE

REVERSAL

Dan and Kathe Spracklen

Winner of the software division of
the First International Man-Machine
OTHELLO™ Tournament

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User's Guide To The Atari Version of Reversal

Adapted for the Atari by Dan and Garry Kitchen

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REVERSAL is an ancient strategy game, popular for centuries, and a great pastime for young and old. Its rules are simple and easy to learn but offer great challenge and excitement with every play.

OBJECT OF THE GAME

The object of the game is to trap your opponent and flip his or her pieces to your color, so that when the board is filled, your color occupies the majority of the squares.

HARDWARE REQUIREMENTS

An Atari 400 or Atari 800 computer with at least 16K of memory, a monitor or T.V. connected to it, and a cassette recorder.

LOADING INSTRUCTIONS

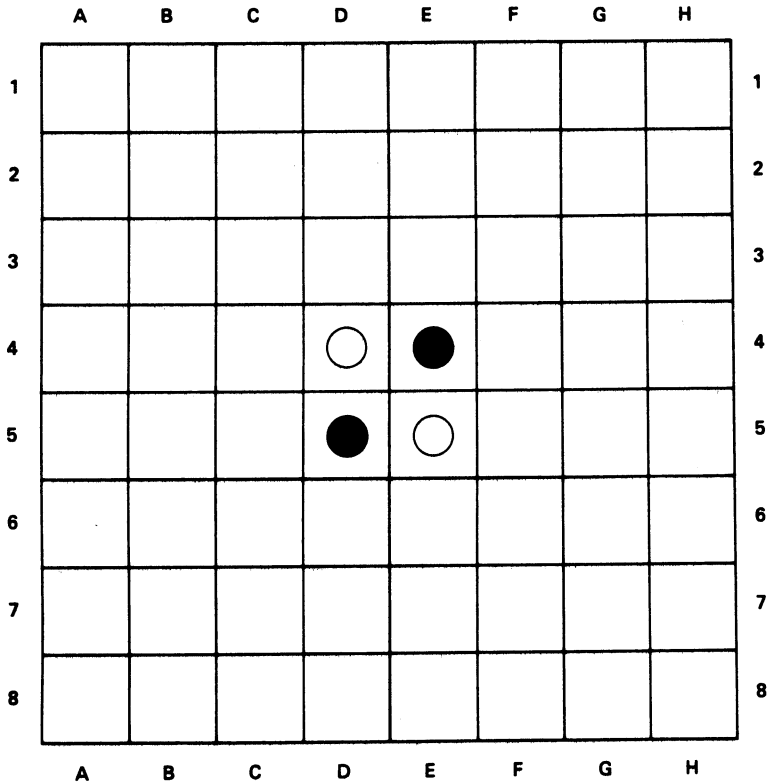
To load and run REVERSAL:

1. Place REVERSAL in your cassette recorder and rewind the tape.
2. Turn off the power and remove any cartridges in the left and right slots.
3. Hold down the key marked START, and turn the power on again.
4. When the power comes on, you will hear a tone. Depress the play button on the cassette recorder, then press **RETURN** on your computer keyboard.
5. The cassette recorder will start, and the program will begin loading.

6. When REVERSAL has been loaded into your Atari, the header page will come onto the screen, and the game will begin.
7. Press the STOP button on your cassette recorder.

Playing Reversal

There are two players. One has the black pieces and the other player has the white pieces. The player with the black pieces goes first. The board is automatically set up with the four center squares filled as follows:

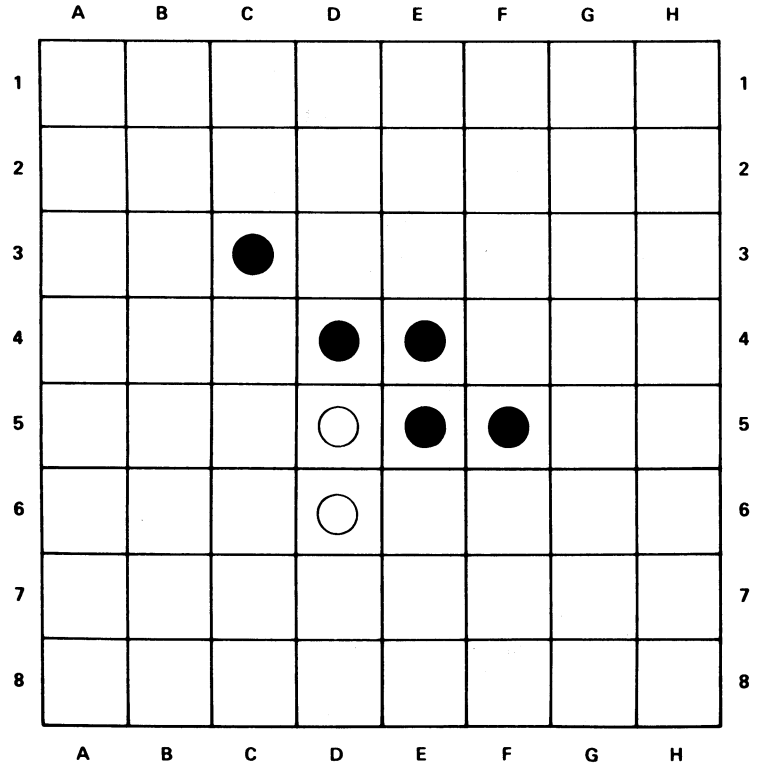


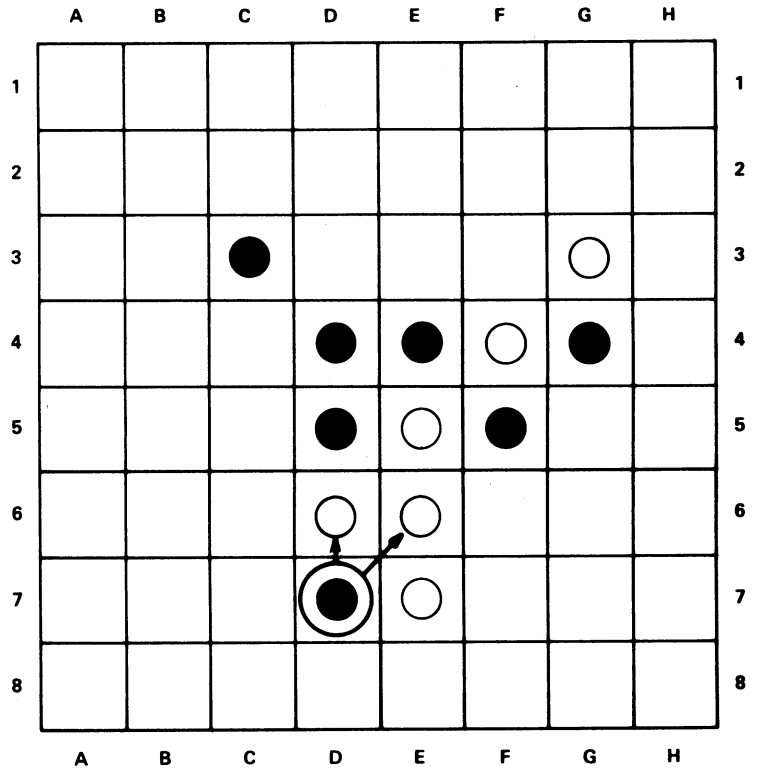
This is the starting position for every game.

On each turn you must place one of your pieces on a square that causes at least one of the opponent's pieces to be trapped between one of your squares and the square you just selected.

In the following example, it is White's turn. Black owns squares C3, D4, E4, E5, and F5, and White owns squares D5 and D6. White may place its next piece only on squares D3, F3, F4, or G5. Choosing square D3 would trap Black's piece on square D4 between D3 and D5, flipping this piece to white. Choosing F3 would trap Black's piece on square E4 between F3 and D5, and this piece would be flipped to white. Choosing square F4 would trap Black's piece on square E5 between F4 and D6, and this piece then would be flipped to white. Choosing G5, however, would result in trapping Black's pieces on squares E5 and F5 between squares D5 and G5, thus causing two black pieces to be flipped to white.

As you play REVERSAL, you may find yourself in a position where, by a strategic placement of your piece, you can flip one or more of your opponent's pieces in several directions at once. These flips can be made horizontally, vertically, and diagonally.





In the above example, Black places a piece on D7, flipping the White piece on D6 (because it is trapped between D5 and D7) and the White piece on E6 (because it is trapped between D7 and F5).

A player must always trap at least one opponent's piece in order to move. If a player finds that he or she cannot do so, that player loses a turn.

The players alternate turns until the board is completely filled with pieces, when it is not possible for either player to move, or until the board is all one color. At any of these points the game is over, and the player with the most pieces on the board is the winner.

HOW TO RUN REVERSAL

REVERSAL has three modes to choose from:

1. Playing a game against the computer
2. Setting up a particular board from which to play
3. Playing a game against another human, with the computer monitoring the game

Choose your option when the program asks:

```
NEW GAME, CHANGE BOARD, OR MONITOR?
(G,C,M):
```

Press **G**, then **RETURN** for a new game;
Press **C**, then **RETURN** to change the board;
Press **M**, then **RETURN** for monitor mode.

NEW GAME

The program will now ask:

```
YOUR COLOR? (B,W):
```

Press **B** (for Black) or **W** (for White). Remember that black moves first! Complete your choice by hitting **RETURN.**

The program next asks:

```
STRATEGY? BEGINNER, INTERMEDIATE,
ADVANCED (B,I,A):
```

Press **B,** then **RETURN,** if you want the computer to be an easy opponent;

Press **I,** then **RETURN,** if you want the computer to play at an intermediate level;

Press **A,** then **RETURN,** if you want the computer to play at the championship level.

Next you will be asked:

```
LEVEL OF PLAY? (1-9):
```

Press the number indicating the level you want, followed by **RETURN.** The higher the level you pick, the slower the computer's response, but the greater the computer's playing skill, will be. Approximate response times for each level are as follows:

Level	Computer's Response Time
1	2.5 seconds
2	5 seconds
3	10 seconds
4	15 seconds
5	30 seconds
6	1 minute
7	3 minutes
8	10 minutes
9	30 minutes

The Board

When the program goes into execution you will see text on the screen, but the board will not be visible. You can switch back and forth between the board and text simply by pressing the **ESC**ape key each time you want to switch.

To Enter a Move

When it is your turn to move, a cursor will be visible on the graphics board. The cursor blinks only on a square where it is legal for you to move. The cursor can be cycled through all your legal moves by moving the joystick to the left or right. In a solo game, use joystick 1. In a game involving more than one human player, use joysticks 1 and 2.

When the cursor rests on the square to which you would like to move, press the joystick button. Your move will be played, and all flips will be executed automatically.

If you don't have joysticks, you may cycle through your legal moves by using the left (←) and right (→) arrow keys. You can lock in your move choice by pressing **RETURN.**

To Enter the Computer's Move

When the program has selected its move, it will sound an audible tone. It will place its piece in the square to which it intends to move and blink that square. To complete the computer's move, press **RETURN** or your joystick button. The computer's move will be played, and all flips will be executed automatically.

The Score

The current score will be displayed to the left of the board at all times during the game, as will the current number of playing pieces

on the board for Black and White. The side currently winning is indicated by the happy or sad facial expressions on the playing pieces. Both the numerical scores and the expressions will be updated with each move played or withdrawn (see "Take-Back Feature").

The Move List

The text screen contains the move list. Each move made by player and computer will be recorded using chess notation. The columns are lettered A-H, and rows are numbered 1-8. The coordinates of the board are:

A1	B1	C1	D1	E1	F1	G1	H1
A2	B2	C2	D2	E2	F2	G2	H2
A3	B3	C3	D3	E3	F3	G3	H3
A4	B4	C4	D4	E4	F4	G4	H4
A5	B5	C5	D5	E5	F5	G5	H5
A6	B6	C6	D6	E6	F6	G6	H6
A7	B7	C7	D7	E7	F7	G7	H7
A8	B8	C8	D8	E8	F8	G8	H8

Kibitz

A hint to the player, giving what the computer thinks is the best move, is available on levels 2-9. To get the computer's suggestions press **CTRL K.**

Take-Back Feature

REVERSAL gives you the option of taking back any move in the game. Even when the game has ended, you can take back one or any number of moves, all the way back to the starting position. To take back a move press **CTRL B.** The last piece played will be removed, and all flips will be undone. The score will be adjusted to reflect the changes.

Each take-back removes one piece and restores all flips for that piece. At any point you have the option of taking back more moves or of playing from that position. If you have taken back one of the computer's moves, you will have the option of choosing a move in its place. The computer will accept your choice. It then becomes your turn to move again, and play resumes.

> NOTE: If you request take-back while the computer is blinking its move choice, press **CTRL B** twice, and the computer's move choice will be erased and your last move will be taken back.

Level Number

You can change the level number at any point in the game by holding the **SHIFT** key down and entering the level number of your choice. If you select a new level while the computer is thinking, that level will not take effect until the following move. The level number is displayed at the top of the text screen.

To End a Game

At any point in the game you can return to the initial list of options by pressing **CTRL R:**

```
NEW GAME, CHANGE BOARD, OR MONITOR?
(G,C,M):
```

The computer will respond at once, aborting even its deepest search (the game board will be rearranged because of the search that was in progress).

IF YOU HAVE CHOSEN CHANGE BOARD

You can now set up any board configuration you desire. If you were already in the middle of a game, the board will be displayed just as you left it. A square will be blinking. That's your signal that

you can change the contents of that square by using one of the following:

Pressing the → key or moving the joystick to the right will leave the contents of the square unchanged and blink the next square to the right on the same row. If you are already at the rightmost square, it will wrap around to the leftmost square in the same row and blink that square.

Pressing the ← key or moving the joystick to the left will leave the contents of the square unchanged and blink a square in the leftward direction. It will wrap around to the rightmost square in a similar manner.

Pressing the ↑ key or moving the joystick up (toward "top") will leave the contents of the square unchanged and blink the next upward square in the same column. If you are already at the topmost square, it will wrap around to the bottommost square in the same column and blink that square.

Pressing the ↓ key or moving the joystick down will leave the contents of the square unchanged and blink the next downward square in the same column. It will wrap to the top in a similar manner.

Pressing the **W** key will place a white piece on the square.

Pressing the **B** key will place a black piece on the square.

Pressing any key not otherwise listed here will empty the square.

Pressing the **RETURN** key will terminate the blinking cycle and return you to the text page. You will then be asked:

```
COLOR TO MOVE NEXT? (B,W):
```

Respond with **B** for Black or **W** for White.

Next you will be asked:

```
MOVE NUMBER (NN):
```

Always enter a two-digit move number (such as, 09, 23, and so on). The computer will begin recording moves from this number on the text page.

Your next prompt will be:

YOUR COLOR? (B,W):

Press **B** if you wish to play Black or **W** if you wish to play White.

Next you will be asked:

STRATEGY: BEGINNER, INTERMEDIATE,
ADVANCED (B,I,A):

Enter **B**, **I**, or **A** for desired strategy.

Finally, you will be asked:

LEVEL OF PLAY? (1-9):

Enter a number from **1** to **9** for desired level.

Now you are ready to play. Press the **ESC**ape key to return to the board display.

IF YOU HAVE CHOSEN MONITOR

Monitor mode permits game play between two humans. The play of the game is exactly as in the section "New Game," but all move choices are left up to the players.

To Enter a Move

Black moves first. A cursor will be visible on the graphics board. The cursor will blink a square where it is legal for Black to move. The cursor can be cycled through all legal moves using the left and right arrow keys or the joystick. When the **RETURN** key is hit or the joystick button is pressed, the move will be played and all flips will be executed automatically.

It is now White's turn. Again the cursor will be visible on the graphics board. The cursor will blink a square where it is legal for White to move. The cursor can be cycled as before, and the move will be entered in the same way. Play alternates between Black and White.

The score, move list, and take-back work the same as in a game between computer and human. Level and kibitz features do not apply. The game can be terminated by **CTRL R** as in a computer-human game.

ADDITIONAL FEATURES

Smile suppression. Pressing **CTRL F** will clear the faces; pressing it again will restore them.

Cursor suppression. Pressing **CTRL C** will stop the cursor from flashing; pressing it again will restore the cursor.

STRATEGY TIPS

1. Do not always go for the move that flips the most pieces. Examine the board and check the consequences of a move before making it.
2. In general, the squares on the outside perimeter (with the exception of spaces adjacent to corners) are valuable since a piece there can be trapped in only two different directions.
3. The squares in rows next to the outside rows are, in general, dangerous squares to move to since they give your opponent a chance to move to the outside row.
4. Try to get the four corner squares. A piece in a corner cannot get trapped between two pieces and, therefore, cannot get flipped. From this position, you have the ability to spread out from the corner and rapidly take control. However, possession of a corner is not a guarantee of winning, so be careful.
5. Be careful of moving into the squares directly adjacent to the corners. This gives the opponent easier access to valuable corner squares.

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